

Remarks

The Examiner's reconsideration of the application is urged in view of the amendments above and comments which follow.

Concerning the title, a new title is set forth above that meets the requirements of the Examiner. Approval is requested.

The Examiner has then rejected claims 1-33 under 35 U.S.C. §112 as being indefinite. Reconsideration is requested in view of the amendments above, comments which follow and attachments hereto.

With respect to claim 1, step (a) specifies that a silica precursor is applied to graphite particles. Since it is a precursor, it is not yet silica. The silica is produced in step (b), where the silica precursor is processed.

The applicants believe that this usage of the term "precursor" is clear to the skilled reader, who will understand that a precursor is something that exists prior to formation of the material of which it is a precursor, and who will expect a processing step to follow, by which the precursor is processed in some way as to produce that material.

Moreover, Examples 1 to 3 in the description make it explicitly clear to the skilled reader how silica precursors are formed that are not yet silica but are precursors for silica.

The Examiner queries how applying the graphite particles to an electrically conductive surface can "lead to" partial amorphous silica coating.

Firstly, step (c) of claim 1 does not use the verb "apply" or the term "lead to". Claim 1 recites "disposing" the graphite particles ... "such that" they are at least partially coated ...

In any event, the specification and the Examples therein give clear directions to the reader as to how this may be achieved.

Examples 5 and 6 on page 20 illustrate how an ink is made out of graphic particles together with either a sol-gel dispersion according to Example 1 or a proprietary solution. At the stage of forming the ink, silica is not yet formed on the graphite particles.

Examples 7 and 8 on pages 21 to 23 illustrate how such inks may be applied to a substrate having a conductive surface, and processed to provide amorphous silica which is doped and/or heavily defective.

Thus, the applicants believe that it is clear to the skilled reader how graphite particles can be disposed upon the conductive surface, such that they are least partially coated with amorphous silica.

As indicated above, the applicants believe that the meaning of “processing” is clear to the skilled reader, who will expect the precursor to be processed in some way as to produce that material of which it is a precursor. Further, both the subsidiary claims and the descriptive text give various examples of the type of processing that may be carried out. For example, claim 26 specifies the processing to comprise heating, and claim 28 specifies the processing to comprise exposure to ultraviolet radiation.

With respect to claim 2, it is submitted that the term “particle-like” is clear to the skilled reader. A projection fabricated on the conductive surface may not be defined literally as a “particle”, since it is joined to and formed as part of the conductive surface. However, in all other respects, it is equivalent to a particle that has been formed as an independent element and subsequently attached to the conductive surface. This is consistent with the description on page 28, lines 9 to 14.

With respect to claims 5-7, 10-11 and 21, the noted lack of antecedents has been cured by positive recital of the first and second mixtures.

Applying the silica precursor to the conductive surface does not preclude it from being applied also to the graphite particles. For example, the silica precursor may be applied to particle-like projections as recited in claim 2. Or the silica

precursor may be applied to the conductive surface and then the graphite particles added, such that the silica precursor becomes applied to the graphite particles at that stage.

With respect to claims 16 and 20, the former claim defines the silica precursor as a soluble precursor, while the latter claim defines the silica precursor as a dispersion of colloidal silica. Something that is soluble cannot be a dispersion. The applicants regret that they do not see how these claims can be considered as identical. By way of just one example, attached is a copy of a definition of "colloid" from Princeton University.

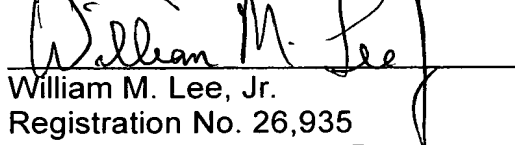
With respect to claim 31, the term "decorated" is considered clear to the skilled reader, as indicating a sparse distribution of graphite on non-graphite particles, whereas "coated" indicates a denser covering. In this context, the verb "decorate" is well understood in the field of microscopy, as the attached Google search result shows. The field of the present invention is very much a microscopic one.

With respect to claim 32, the applicants have removed the definite article before the term "prism planes", to cure the lack of antecedent.

Given the above, it is submitted with the changes and the explanation above, this application is now in condition for allowance of claims 1 through 33. The applicants are still considering whether to file a divisional application directed to claims 33-50, and have therefore properly indicated those claims above as being "withdrawn". Further and favorable reconsideration by the Examiner is therefore urged.

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Respectfully submitted,

A handwritten signature in black ink, appearing to read "William M. Lee, Jr.", is written over a horizontal line.

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